AMENDMENTS TO THE CLAIMS

1. (Cancelled).

2. (Currently Amended) An isolated nucleic acid comprising

(a) a nucleotide sequence encoding an amino acid sequence represented by SEQ ID NO: 2 or 4, said amino acid sequence having nicotianamine aminotransferase activity, or

(b) a nucleotide sequence which hybridizes to the nucleotide sequence of (a), when incubated in a solution of 5 x Denhart's solution, 5x SSPE and 0.1% SDS at 65°C for 12 hours, washed once with 6x SSP at 65°C for 10 minutes and washed twice with 2x SSP, 0.1% SDS at 42°C for 10 minutes, said nucleotide sequence comprising a nucleotide sequence of DNA which is amplifiable by polymerase chain reaction on a nucleic acid from ~~a Gramineae plant~~ barley with the primers represented by SEQ ID NO: 5 and 6 repeating a cycle of incubation at 94°C for 40 seconds, followed by 40°C for 1 minute, and followed by 72°C for 2 minutes 25 times, and then repeating a cycle of incubation at 94°C for 40 seconds, followed by 45°C for 1 minute, and followed by 72°C for 2 minutes 25 times, and said nucleotide sequence encoding an amino acid sequence having nicotianamine aminotransferase activity.

3. (Previously Presented) The isolated nucleic acid according to claim 2, which has a nucleotide sequence encoding the amino acid sequence represented by SEQ ID NO: 2 or 4.

4. (Previously Presented) The isolated nucleic acid according to claim 3, which has a nucleotide sequence represented by SEQ ID NO: 1 or 3.

5. (Currently Amended) A plasmid comprising a nucleic acid comprising

(a) a nucleotide sequence encoding an amino acid sequence represented by SEQ ID NO: 2 or 4, said amino acid sequence having nicotianamine aminotransferase activity, or

(b) a nucleotide sequence which hybridizes to the nucleotide sequence of (a), when incubated in a solution of 5 x Denhart's solution, 5x SSPE and 0.1% SDS at 65°C for 12 hours, washed once with 6x SSP at 65°C for 10 minutes and washed twice with 2x SSP, 0.1% SDS at 42°C for 10 minutes, said nucleotide sequence comprising a nucleotide sequence of DNA which is amplifiable by polymerase chain reaction on a nucleic acid from ~~a Gramineae plant~~ barley with the primers represented by SEQ ID NO: 5 and 6 repeating a cycle of incubation at 94°C for 40 seconds, followed by 40°C for 1 minute, and followed by 72°C for 2 minutes 25 times, and then repeating a cycle of incubation at 94°C for 40 seconds, followed by

45°C for 1 minute, and followed by 72°C for 2 minutes 25 times, and said nucleotide sequence encoding an amino acid sequence having nicotianamine aminotransferase activity.

6. (Currently Amended) An expression plasmid comprising:

(1) a promoter that functions in a host cell,

(2) a nucleic acid comprising

(a) a nucleotide sequence encoding an amino acid sequence represented by SEQ ID NO: 2 or 4, said amino acid sequence having nicotianamine aminotransferase activity, or

(b) a nucleotide sequence which hybridizes to the nucleotide sequence of (a), when incubated in a solution of 5 x Denhart's solution, 5x SSPE and 0.1% SDS at 65°C for 12 hours, washed once with 6x SSP at 65°C for 10 minutes and washed twice with 2x SSP, 0.1% SDS at 42°C for 10 minutes, said nucleotide sequence comprising a nucleotide sequence of DNA which is amplifiable by polymerase chain reaction on a nucleic acid from ~~a Gramineae plant~~ barley with the primers represented by SEQ ID NO: 5 and 6 repeating a cycle of incubation at 94°C for 40 seconds, followed by 40°C for 1 minute, and followed by 72°C for 2 minutes 25 times, and then repeating a cycle of incubation at 94°C for 40 seconds, followed by 45°C for 1 minute, and followed by 72°C for 2 minutes 25 times, and said nucleotide sequence encoding an

amino acid sequence having nicotianamine aminotransferase activity, and

(3) a terminator that functions in a host cell, wherein the promoter, the nucleic acid, and the terminator are operably linked in the above described order.

7. (Currently Amended) A process for constructing an expression plasmid, which comprises combining:

(1) a promoter that functions in a host cell,

(2) a nucleic acid comprising

(a) a nucleotide sequence encoding an amino acid sequence represented by SEQ ID NO: 2 or 4, said amino acid sequence having nicotianamine aminotransferase activity, or

(b) a nucleotide sequence which hybridizes to the nucleotide sequence of (a), when incubated in a solution of 5 x Denhart's solution, 5x SSPE and 0.1% SDS at 65°C for 12 hours, washed once with 6x SSP at 65°C for 10 minutes and washed twice with 2x SSP, 0.1% SDS at 42°C for 10 minutes, said nucleotide sequence comprising a nucleotide sequence of DNA which is amplifiable by polymerase chain reaction on a nucleic acid from ~~a Gramineae plant~~ barley with the primers represented by SEQ ID NO: 5 and 6 repeating a cycle of incubation at 94°C for 40 seconds, followed by 40°C for 1 minute, and followed by 72°C for 2 minutes 25 times, and then

repeating a cycle of incubation at 94°C for 40 seconds, followed by 45°C for 1 minute, and followed by 72°C for 2 minutes 25 times, and said nucleotide sequence encoding an amino acid sequence having nicotianamine aminotransferase activity, and

(3) a terminator that functions in a host cell, wherein the promoter, the nucleic acid, and the terminator are operably linked in the above described order.

8. (Currently Amended) A host cell transformed with the plasmid as defined in claim 5 or 6 ~~5, 6, 22, or 23~~.

9. (Previously Presented) The host cell according to claim 8, wherein the host cell is a microorganism.

10. (Previously Presented) The host cell according to claim 8, wherein the host cell is a plant cell.

11. (Currently Amended) A process for enhancing iron absorbing ability of a plant cell, which absorbs iron using mugineic acid compound to solubilize the iron, which process comprises

introducing into a plant cell, which absorbs iron using mugineic acid compound to solubilize the iron, an expression plasmid formed by combining

(1) a promoter that functions in said cell,

(2) a ~~nucleotide sequence~~ nucleic acid comprising

(a) a nucleotide sequence encoding an amino acid sequence represented by SEQ ID NO: 2 or 4, said amino acid sequence having nicotianamine aminotransferase activity, or

(b) a nucleotide sequence which hybridizes to the nucleotide sequence of (a), when incubated in a solution of 5 x Denhart's solution, 5x SSPE and 0.1% SDS at 65°C for 12 hours, washed once with 6x SSP at 65°C for 10 minutes and washed twice with 2x SSP, 0.1% SDS at 42°C for 10 minutes, said nucleotide sequence comprising a nucleotide sequence of DNA which is amplifiable by polymerase chain reaction on a nucleic acid from ~~a Gramineae plant~~ barley with the primers represented by SEQ ID NO: 5 and 6 repeating a cycle of incubation at 94°C for 40 seconds, followed by 40°C for 1 minute, and followed by 72°C for 2 minutes 25 times, and then repeating a cycle of incubation at 94°C for 40 seconds, followed by 45°C for 1 minute, and followed by 72°C for 2 minutes 25 times, and said nucleotide sequence encoding an amino acid sequence having nicotianamine aminotransferase activity, and

(3) a terminator that functions in said cell, wherein the promoter, the nucleic acid, and the terminator are operably linked in the above described order,

expressing in said cell the amino acid sequence encoded by said nucleic acid, and

enhancing production in said cell of mugineic acid compound that solubilizes iron, wherein the iron absorbing ability in said cell is enhanced.

12. (Cancelled).

13. (Previously Presented) The process according to claim 11, wherein the nucleic acid comprises a nucleotide sequence encoding an amino acid sequence represented by SEQ ID NO: 2 or 4.

14. (Withdrawn) A gene fragment having a partial sequence of the gene as defined in claim 2, 3 or 4.

15. (Withdrawn) The gene fragment according to claim 14, wherein the number of the base is 15 or more and 50 or less.

16. (Withdrawn) The gene fragment according to claim 14, which has the nucleotide sequence represented by SEQ ID NO: 5.

17. (Withdrawn) A process for detecting a nicotianamine aminotransferase gene, which comprises detecting from plant gene fragments a nicotianamine aminotransferase gene having a

nucleotide sequence encoding an amino acid sequence of an enzyme with the nicotianamine aminotransferase activity or a gene fragment thereof by applying the hybridization method using the gene fragment as defined in claim 14, 15 or 16.

18. (Withdrawn) A process for amplifying a nicotianamine aminotransferase gene, which comprises amplifying a nicotianamine aminotransferase gene having a nucleotide sequence encoding an amino acid sequence of an enzyme with the nicotianamine aminotransferase activity or a gene fragment thereof by applying PCR (polymerase chain reaction) on a plant gene fragment using the gene fragment as defined in claim 14, 15 or 16 as a primer.

19. (Withdrawn) A process for obtaining a nicotianamine aminotransferase gene, which comprises identifying a nicotianamine aminotransferase gene or a gene fragment thereof by the process as defined in claim 17 or 18, and isolating and purifying the identified gene or the gene fragment thereof.

20. (Withdrawn) A nicotianamine aminotransferase gene obtained by the process as defined in claim 19.

21. (Currently Amended) An isolated nucleic acid comprising:

(a) a nucleotide sequence encoding an amino acid sequence represented by SEQ ID NO: 2 or 4, said amino acid sequence having nicotianamine aminotransferase activity, or

(b) a nucleotide sequence which hybridizes to the nucleotide sequence of (a), when incubated in a solution of 5x Denhart's solution, 5x SSPE and 0.1% SDS at 65°C for 12 hours, washed once with 6x SSP at 65°C for 10 minutes and washed twice with 2x SSP, 0.1% SDS at 42°C for 10 minutes, said nucleotide sequence comprising a nucleotide sequence of DNA which is amplifiable by polymerase chain reaction on a nucleic acid from ~~a Gramineae plant~~ barley with the primers represented by SEQ ID NO: 5 and 6 repeating a cycle of incubation at 94°C for 40 seconds, followed by 40°C for 1 minute, and followed by 72°C for 2 minutes 25 times, and then repeating a cycle of incubation at 94°C for 40 seconds, followed by 45°C for 1 minute, and followed by 72°C for 2 minutes 25 times, and said nucleotide sequence encoding an amino acid sequence having nicotianamine aminotransferase activity and said nucleotide sequence comprising at least 600 nucleotides.

22. (Previously Presented) The plasmid according to claim 5, which comprises a nucleic acid comprising a nucleotide sequence encoding an amino acid sequence represented by SEQ ID NO: 2 or 4.

23. (Previously Presented) The expression plasmid according to claim 6, which comprises a nucleic acid comprising a nucleotide sequence encoding an amino acid sequence represented by SEQ ID NO: 2 or 4.

24. (Previously Presented) The process according to claim 7, wherein the expression plasmid comprises a nucleic acid comprising a nucleotide sequence encoding an amino acid sequence represented by SEQ ID NO: 2 or 4.

25. (New) An isolated nucleic acid comprising

(a) a nucleotide sequence encoding an amino acid sequence represented by SEQ ID NO: 2 or 4, said amino acid sequence having nicotianamine aminotransferase activity, or

(b) a nucleotide sequence obtainable from barley, said nucleotide sequence hybridizing under stringent conditions to the nucleotide sequence represented by SEQ ID NO: 1 or 3, and said nucleotide sequence encoding an amino acid sequence having nicotianamine aminotransferase activity.

26. (New) The isolated nucleic acid according to claim 25, wherein said nucleotide sequence of (b) hybridizes to the nucleotide sequence represented by SEQ ID NO: 1 or 3 when incubated in a solution of 5 x Denhart's solution, 5x SSPE and 0.1% SDS at

65°C for 12 hours, washed once with 6x SSP at 65°C for 10 minutes and washed twice with 2x SSP, 0.1% SDS at 42°C for 10 minutes.